

iConverter GX/TM2 Plug-in Module QUICK START GUIDE

The Omnitron *iConverter*® GX/TM2 Plug-In media converter and Network Interface Device (NID) provides 10BASE-T, 100BASE-TX or 1000BASE-T UTP to 1000BASE-FX fiber media conversion.

The GX/TM2 conforms to Ethernet in the First Mile (EFM) fiber standards to support Fiber-to-the-X (FTTX) in Metropolitan access and Enterprise LAN networks. Built-in Operation, Administration and Maintenance (OAM) functionality enables the GX/TM2 to operate as a managed demarcation point at the customer premises and network edge, offering Quality of Service capabilities.

The GX/TM2 module can be managed using Omnitron's *NetOutlook*™ SNMP Management Software, third-party SNMP Client, Telnet or the Command Line Interface (CLI).

For more information, including the complete User Manual on the GX/TM2 Plug-in module, access Omnitron's documentation download web page to view all relevant documents: <http://www.omnitron-systems.com/downloads.php>



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Management Options                iConverter, Serial Agent
Network Management
1:  Chassis and Module Management
2:  Set Module Name Preferences
Management Module Preferences
3:  IP and Control Preferences
4:  SNMP Preferences
5:  Abandon Preference Changes
6:  Save Preference Changes
7:  Restore Factory Defaults
8:  Restart Management Module
9:  Other Networking Features
Management Module Maintenance
10: Firmware Update
11: Set Date/Time

IP Address  = 192.168.1.220
Chassis Number = 1

Enter Choice, <H>elp, E<x>it >
    
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Figure C: Command Line Interface Menu Options

The CLI interface allows for the detailed configuration of the module. It is recommended to configure the module with an IP address associated with the attached network. Also, SNMP trap host address should be configured if the module is managed with an SNMP-based Management System. See the GX/TM2 User Manual for complete information.

4) VERIFY OPERATION

Once the module has been installed and configured per steps 1 - 3, verify the module is operational by viewing the LED indicators.

The Power LED indicates the module is receiving power from the chassis.

The Fiber Optic link LED indicates the fiber optic connection has been established. Verify the Link Mode selection is set to Link Segment (LS). Until a stable link is established, leave the Link Mode configured for LS. After a Link presence is established, the Link Mode selection can be modified.

The UTP link LED indicates the module has established a connection across its UTP port.

LED Function "Legend"	Color	Off State	On / Blinking State
Power "Pwr"	Green	No power	On: Module has power
Power Supply Status # X	Green	Chassis Power Supply not installed	On: Power available from installed Power Supply # X. Blinking: No power available from installed Power Supply # X.
1000Mbps Fiber Optics "FO"	Green	No Fiber Link	On: Fiber Link Blinking: Fiber Data Activity
Chassis Management Master/Slave "Msr/Slv"	Green	Chassis in Slave Mode	On: Chassis Master Mode Blinking: Operating in OAM Mode
UTP port 100Mbps "100"	Green	Not linked at 100Mbps	On: UTP linked at 100Mbps Blinking: UTP Data Activity
UTP port 1000Mbps "1000"	Green	Not linked at 1000Mbps	On: UTP linked at 1000Mbps Blinking: UTP Data Activity
UTP port 10Mbps "100" + "1000"	Green	Not linked at 10Mbps	On: UTP linked at 10Mbps Blinking: UTP Data Activity
UTP port Full-Duplex "FDX"	Green	Half-Duplex when any UTP link is active	On: Full-Duplex when any UTP link is active

Figure D: LED Indicators

INSTALLATION PROCEDURE

- 1) Configure DIP-Switches
- 2) Install Module in Chassis and Connect Cables
- 3) Configure Module via Command Line Interface
- 4) Verify Operation

1) CONFIGURE DIP-SWITCHES

DIP-SWITCH BANK 1

SW1 - FIBER AUTO/MANUAL NEGOTIATION "AN MAN"

When this DIP-switch is in the LEFT "AN" position (factory default), the fiber optic port automatically determines the duplex and pause modes of the connecting fiber optic device. If the connecting fiber optic device cannot provide the proper signal to indicate its own mode of operation, the DIP-switch should be set to the RIGHT fiber optic "Man" position. When in manual mode, no capabilities are advertised.

NOTE: The fiber optic port of the GX/TM2 is always in Full-Duplex mode.

SW2 - UTP AUTO/MANUAL NEGOTIATION "AN/MAN"

When this DIP-switch is in the LEFT UTP "AN" position (factory default), the UTP port automatically determines the Speed, Duplex and Pause mode of the connecting UTP device. If the connecting UTP device cannot provide the proper signal to indicate its own mode of operation, then the DIP-switch should be set to "Man" position. Manual mode requires manually configuring the UTP port to match the Speed and Duplex mode of the connecting UTP device using the "10/100" and "FDX/HDX" DIP-switches.

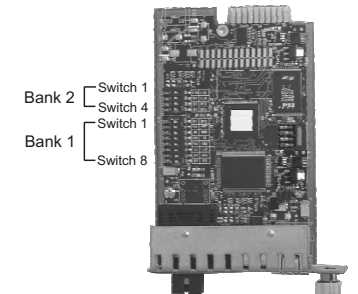


Figure A: DIP-Switch Locations

SW3 - UTP SPEED GIGABIT/10-100 “1000/10-100”

When the “1000/10-100” DIP-switch is in the “1000” position (factory default), the UTP port operates in 10/100/1000Mbps Auto-Negotiation mode. The UTP port auto-negotiates to a speed of 10Mbps, 100Mbps or 1000Mbps with the connected UTP device. In this mode, the UTP “AN/Man” and UTP “100/10” DIP-switches have no effect.

When the “1000/10-100” DIP-switch is in the “10-100” position and the UTP “AN/Man” DIP-switch is in the “Man” position, the UTP port operates at the Speed and Duplex modes set by the “100/10” and “FDX/HDX” DIP-switches.

When the “1000/10-100” DIP-switch is in the “10-100” position and the UTP “AN/Man” DIP-switch is in the “AN” position, the UTP port maximum auto-negotiation setting for the Speed and Duplex mode is determined by the “100/10” and “FDX/HDX” DIP-switches.

SW4 - UTP 100/10MBPS “100/10”

When the UTP “AN/Man” DIP-switch (described above) is in the manual “Man” position, the “100/10” DIP-switch determines the speed of operation for the UTP port. Set the “100/10” DIP-switch to match the speed of the connected UTP device.

SW5 - UTP FULL/HALF DUPLEX “FDX/HDX”

When the UTP “AN/Man” DIP-switch (described above) is in the manual “Man” position, the “FDX/HDX” DIP-switch determines the duplex mode of the UTP port. Set the “FDX/HDX” DIP-switch to match the duplex mode of the connected UTP device.

SW6, SW7, SW8 - LINK MODES

These three DIP-switches configure the link mode settings. The following table details possible Link Mode DIP-switch configurations.

Switch	Left (Factory Default)	Right
SW1	AN: Fiber Auto-Negotiation	Man: Fiber Manual Negotiation
SW2	AN: UTP Auto-Negotiation	Man: UTP Manual
SW3	1000: UTP 1000Mbps	10-100: UTP 10-100Mbps
SW4	100: UTP 100Mbps	10: UTP 10Mbps
SW5	FDX: UTP Full-Duplex	HDX: UTP Half-Duplex
SW6	See Link Mode Selection	
SW7		
SW8		

SW6	SW7	SW8	Link Mode Selection
Left	Left	Left	Link Segment (LS) (Factory Default)
Right	Left	Left	Link Propagate (LP)
Left	Right	Left	Remote Fault Detect + Link Segment (RFD + LS)
Right	Right	Left	Remote Fault Detect + Link Propagate (RFD + LP)
Left	Left	Right	Symmetrical Fault Detect (SFD)
Right	Left	Right	Asymmetrical Link Propagate Port 1 to Port 2 (ALP P1-P2)
Left	Right	Right	Asymmetrical Link Propagate Port 2 to Port 1 (ALP P2-P1)
Right	Right	Right	Asymmetrical RFD+LP Port 1 to Port 2 (ARFDP1-P2)

Figure B: DIP-Switch Bank 1

DIP-SWITCH BANK 2

SW1, SW2 - BACKPLANE ENABLE

When the DIP-switch is in the LEFT “DS” position (factory default), the Backplane Port of the GX/TM2 is isolated from the chassis’ Ethernet Backplane. When this DIP-switch is in the RIGHT “EN” position, the Backplane Port is enabled. This allows Ethernet Backplane connectivity to an adjacent module via the chassis Backplane Link “A” or “B” depending on the switch setting.

SW3 - MASTER/SLAVE

When the GX/TM2 module is installed in a chassis with an *iConverter* management module such as a 10/100M2, set the DIP-switch to the LEFT “M/SL” position (factory default), the assignment of mastership is automatically negotiated by the installed management modules. To designate the GX/TM2 module as the master of the chassis, set the DIP-switch on the module to the LEFT “M/SL” position, and set the DIP-switch on the other installed management modules to the RIGHT “SL” position to enable Slave-Only mode.

Switch	Left (Factory Default)	Right
SW1	A-DS: Port A Disabled	A-EN: Port A Enabled
SW2	B-DS: Port B Disabled	B-EN: Port B Enabled
SW3	M/SL: Master/Slave Auto-Select	SL: Slave-Mode Only
SW4	Reserved	Reserved

Figure C: DIP-Switch Bank 2

SW4 - RESERVED

This DIP-switch is for factory use only and must always remain in the LEFT position (factory default).

2) INSTALL MODULE IN CHASSIS AND CONNECT CABLES

- Carefully slide the module into an open slot in the chassis. Align the module with the installation guides and ensure that the module is firmly seated against the backplane. Secure the module by fastening the front panel thumbscrew (push in and turn clockwise to tighten) to the chassis front. Verify the “Pwr” LED is ON (indicating the chassis is powered).
- When using a GX/TM2 SFP model (8939N-0), insert the SFP Fiber transceiver into the Port 1 SFP receptacle on the GX/TM2.

NOTE: The release latch of the SFP Fiber transceiver must be in the closed position before insertion.

- Connect the UTP port via a Category 5 cable to a 10BASE-T, 100BASE-TX or 1000BASE-T Ethernet device.
- Connect an appropriate multimode or single-mode fiber cable to the fiber port of the installed module. It is important to ensure that the transmit (Tx) is attached to the receive side of the device at the other end and the receive (Rx) is attached to the transmit side. Single-fiber (SF) media converter models operate in pairs. The Tx wavelength must match the Rx wavelength at the other end and the Rx wavelength must match the Tx wavelength at the other end.

3) CONFIGURE MODULE VIA COMMAND LINE INTERFACE

To access the Command Line Interface (CLI), connect the GX/TM2 RS-232 Console Port to the COM port of a computer equipped with terminal emulation software such as HyperTerminal. The Console Port (DCE) is a mini DIN-6 female connector which can be changed to a DB-9 connector with the included adapter. The GX/TM2 Console Port is a standard asynchronous serial interface.

Start HyperTerminal and select the correct COM Port in the HyperTerminal “Connect To:” window. Set the serial port to the following:

Bits Per Second	57,600
Stop Bits	1
Data Bits	8
Parity	NONE
Hardware Flow Control	NONE

Once connected, press <ENTER> to bring up a command line prompt on the attached PC.